

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Improved diffuser ~~(10)~~ for a centrifugal compressor, characterised in that it comprises blading with blades ~~(12)~~.

2. (currently amended) Improved diffuser ~~(10)~~ according to claim 1, characterised in that the said blading has a strength s of the said blades ~~(12)~~ which is between 0.5 and 1, including extreme values, the said strength s being provided by the ratio between the pitch p of the said blading and the chord c of the said blades ~~(12)~~, the said pitch p being provided by the ratio $\frac{\pi \cdot Dp_{in}}{Z}$,

wherein Z is the number of the said blades ~~(12)~~ and Dp_{in} is the diameter of an intake edge of the said blading.

3. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 or claim 2, characterised in that a deflection β of the said blading, i.e. the angle of displacement of a tangent line at the outlet of the blade ~~(12)~~ relative to a tangent line at the intake of the blade ~~(12)~~, is between an angle of 0° and an angle of 10° , including extreme values.

4. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~
~~or claim 3~~, characterised in that the ratio between a diameter of an intake edge D_p in of
the said blading and an outer diameter of an impeller D_2 of the said centrifugal
compressor, is between 1.04 and 1.14, including extreme values.

5. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~
~~or claim 3 or claim 4~~, characterised in that the ratio between a diameter of an outlet edge
 D_p out of the said blading and an outer diameter of an impeller D_2 of the said centrifugal
compressor, is between 1.25 and 1.35, including extreme values.

6. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~
~~or claim 3 or claim 4 or claim 5~~, characterised in that it is used in centrifugal compressor
stages with a coefficient of flow of 0.03 or less.

7. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,
characterised in that a design of the said blades ~~(12)~~ is optimised by means of the so-
called CFD i.e. Computational Fluid Dynamic method (in other words a method for fluid-
dynamics calculation).

8. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,
characterised in that a design of the said blades ~~(12)~~ is optimised by means of
experimental methodology.

9. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,
characterised in that it is used for delivery of a centrifugal compressor for re-injection.

10. (canceled)